

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB2004/002604

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N33/569 G01N33/68 A61K31/185 A61P33/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>PIZARRO J C ET AL: "Crystal Structure of a Fab Complex Formed with PfMSP1-19, the C-terminal Fragment of Merozoite Surface Protein 1 from Plasmodium falciparum: A Malaria Vaccine Candidate"</p> <p>JOURNAL OF MOLECULAR BIOLOGY, LONDON, GB, vol. 328, no. 5, 16 May 2003 (2003-05-16), pages 1091-1103, XP004454238</p> <p>ISSN: 0022-2836</p> <p>the whole document</p> <p style="text-align: center;">----- -/--</p>	1,2,5,7, 8,15



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

11 November 2004

Date of mailing of the international search report

24/11/2004

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>URQUIZA M ET AL: "Identification of Plasmodium falciparum MSP-1 peptides able to bind to human red blood cells." PARASITE IMMUNOLOGY. OCT 1996, vol. 18, no. 10, October 1996 (1996-10), pages 515-526, XP002304993 ISSN: 0141-9838 the whole document</p> <p>-----</p>	1,2,7,8, 15
A	<p>BENJAMIN P A ET AL: "Antigenic and sequence diversity at the C-terminus of the merozoite surface protein-1 from rodent malaria isolates, and the binding of protective monoclonal antibodies." MOLECULAR AND BIOCHEMICAL PARASITOLOGY. 30 NOV 1999, vol. 104, no. 2, 30 November 1999 (1999-11-30), pages 147-156, XP002304994 ISSN: 0166-6851 page 152, left-hand column, line 6 - page 155, left-hand column, last line ; figures; tables</p> <p>-----</p>	1-12
A	<p>NIKODEM D ET AL: "Identification of a novel antigenic domain of Plasmodium falciparum merozoite surface protein-1 that specifically binds to human erythrocytes and inhibits parasite invasion, in vitro." MOLECULAR AND BIOCHEMICAL PARASITOLOGY. 30 APR 2000, vol. 108, no. 1, 30 April 2000 (2000-04-30), pages 79-91, XP002304995 ISSN: 0166-6851 the whole document</p> <p>-----</p>	1-12
A	<p>EPP C ET AL: "Expression and purification of Plasmodium falciparum MSP-142: A malaria vaccine candidate" JOURNAL OF CHROMATOGRAPHY B: BIOMEDICAL SCIENCES & APPLICATIONS, ELSEVIER SCIENCE PUBLISHERS, NL, vol. 786, no. 1-2, 25 March 2003 (2003-03-25), pages 61-72, XP004414354 ISSN: 1570-0232</p> <p>-----</p> <p style="text-align: center;">-/--</p>	

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	FLECK SUZANNE L ET AL: "Suramin and suramin analogues inhibit merozoite surface protein-1 secondary processing and erythrocyte invasion by the malaria parasite Plasmodium falciparum." THE JOURNAL OF BIOLOGICAL CHEMISTRY. 28 NOV 2003, vol. 278, no. 48, 28 November 2003 (2003-11-28), pages 47670-47677, XP002304996 ISSN: 0021-9258 the whole document	1-15
X	EP 0 486 809 A (ERBA CARLO SPA) 27 May 1992 (1992-05-27) claims 1,2	13,14

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 16

Claim 16 addresses a method without characterising technical features but with reference to the description and to the drawings in general. The scope of protection sought for is thus unclear (Article 6 PCT in conjunction with Rule 6.2 (a) PCT). Due to the lack of technical features is a meaningful search impossible, i.e. for said claim 16 will no search report be established (Article 17.2(a) PCT).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 16
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/002604

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0486809	A	27-05-1992	EP 0486809 A2	27-05-1992
			JP 4283515 A	08-10-1992

INTERNATIONAL SEARCH REPORT

national application No.

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Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

a. type of material

☒

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☒

in written format

☒

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed

☐

filed together with the international application in computer readable form

☐

furnished subsequently to this Authority for the purpose of search

2.

☒

In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3.

Additional comments: